

REMARKS

The Office Action dated December 10, 2004 has been carefully considered. Claims 1 and 10 have been amended. Claims 1-29 are in this application.

Claims 15-29 are allowed.

Claim 1 has been amended to recite that the update cycle of pull content is the average length of time between two successive expiration times or two successive modifications of the pull content. Support for this amendment is found throughout the specification and in particular on page 7, lines 11-14. No new matter has been entered.

Previously presented claims 1-6, 10 and 11 were rejected under 35 U.S.C. § 102 as anticipated by U.S. Patent No. 6,119,167 to Boyle et al. Applicants submit that the teachings of this reference do not disclose or suggest the invention defined by the present claims.

Boyle et al. disclose a method for processing data pushed over a network via a computer system intermediate between a source and destination in which the intermediate computer system receives the push data and if the intermediate system is unable to forward the pushed data to the destination for a predetermined length of time, the intermediate system deletes the pushed data never forwarding the pushed data to the destination.

The present invention is directed to a method and system for optimizing pull services by reducing access latency for the pull-service by using factors of a frequency of access to the pull content, an update cycle of the pull content and a response delay for fetching the pull content. The update cycle of pull content is the average length of time between two successive expiration times or two successive modifications of the pull content. Further, the present invention provides optimizing push services by iteratively estimating a state of each of the plurality of mobile users for determining push content to be forwarded to the mobile user by the at least one push service running on an at least one Web server.

In contrast to the invention defined by the present claims, Boyle et al. do not teach or suggest reducing access latency for optimizing pull services by prefetching documents into a cache of at least one proxy gateway by using factors selected from frequency of access of mobile users to the pull content, an update cycle of the pull content in which the update cycle of pull content is the average length of time between two successive expiration times or two successive

modifications of the pull content and a response delay for fetching the pull content. Rather, Boyle et al. is directed to deleting pushed data if it is unable to be forwarded after a predetermined length of time. However, Boyle et al. do not disclose or suggest optimization of a pull service to select pull documents that are to be prefetched based on frequency of access to pull content, an update cycle of the pull content and response delay for fetching the pull content.

The Examiner indicated that the claimed update cycle of the pull content was disclosed in Boyle et al. as using a stock quote service to push the prices of a selected stock when the price changes and providing the latest version of the data in a browser proxy. However, the update cycle of the present invention is directed to the pull content of the average length of time between two successive expiration times or two successive modifications of said pull content. In contrast, in Boyle et al., there is no selection of documents to be prefetched based on the update cycle of the pull content.

In addition, Boyle et al. do not disclose or suggest iteratively estimating a state of a mobile user to determine push content to be forwarded to the mobile user by the push service. There is no mechanism for estimating a state of a mobile user in Boyle et al. Rather, Boyle et al. allows users to specify a preference for data through a browser which is unrelated to a state of the user. However, in the present invention, the state of a mobile user is automatically estimated for determining the push content to be forwarded and is not selected individually by a user through use of a browser. Applicants submit that although Boyle et al. and the present invention describe push and pull services to mobile users, Boyle et al. is directed to pushing data to users and deleting data after a certain period of time, while the present invention is directed to optimizing pull services by reducing access latency by prefetching certain documents and optimizing push services by iteratively estimating a state of the mobile user.

With regard to claims 10 and 11, claims 10 and 11 are believed to be allowable for the reasons that claims 1 and 2 are believed to be allowable.

Accordingly, Boyle et al. do not teach or suggest all of the features of the present invention and the present invention is not anticipated by Boyle et al.

Claims 7-9 and 12-14 were rejected under 35 U.S.C. § 103 as being obvious in view of Boyle et al. in combination with U.S. Patent No. 6,697,103 to Fernandez et al.

The invention of claim 7 relates to iteratively estimating a state of a mobile user from tracking data, geo-location measurement and behavior observation data to determine the state, i.e., mobility-related and behavior-related, push content that will be cached into a cache of a proxy gateway (claim 8). Claim 9 recites that the state is related to the factors of location, moving direction, speed and behavior. For example, when a user is driving onto a highway, the user may be interested in traffic information, but when the user is walking on a street, the user may be interested in advertisements.

As described above, Boyle et al., do not disclose or suggest an estimation of a mobile user's state. Rather, Boyle et al. disclose subscribed content that is not dynamically changeable with a transition of a state of a user.

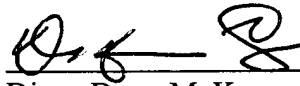
Fernandez et al. is directed to integrated imaging and GPS or network to monitor remote object movement. A browser interface displays objects and detectors. A database stores object position movements. Surveillance of an object is monitored by integrated monitoring positioned data with GPS.

In contrast to the invention defined by the present claims, Fernandez et al. do not teach or suggest iteratively estimating a state of a mobile user. Rather, Fernandez et al. is directed to recovering a location and an image signal of their behavior. Further, Fernandez et al. do not provide any consideration for relating a state of a mobile user with content to be pushed. Thus, Fernandez et al. do not cure the deficiencies of Boyle et al. noted above and the invention defined by the present claims is not obvious in view of Boyle et al. alone or in combination with Fernandez et al.

In view of the foregoing, Applicants submit that all pending claims are in condition for allowance and request that all claims be allowed. The Examiner is invited to contact the undersigned should he believe that this would expedite prosecution of this application. It is believed that no fee is required. The Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 13-2165.

Respectfully submitted,

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